

What is claimed is:

1. A nonaqueous electrolyte for an electrical storage device comprising a nonaqueous solvent, a salt dissolved in said nonaqueous solvent, and a liquid viscosity reducing agent in sufficient quantity to substantially reduce the viscosity of the electrolyte below the viscosity of the nonaqueous solvent.
2. The electrolyte of claim 1, wherein said liquid viscosity reducing agent has a viscosity that is less than half of that of said organic solvent.
3. The electrolyte of claim 2, wherein said liquid viscosity reducing agent has a viscosity that is less than about a quarter of that of said organic solvent.
4. The electrolyte of claim 1, wherein said liquid viscosity reducing agent has a viscosity that is less than about 0.6 cP at room temperature.
5. The electrolyte of claim 1, wherein said liquid viscosity reducing agent has a density less than that of said organic solvent.
6. The electrolyte of claim 1, wherein said liquid viscosity reducing agent has a specific gravity less than about 1.
7. The electrolyte of claim 1, wherein said liquid viscosity reducing agent is a C3 to C10 ketone.
8. The electrolyte of claim 7, wherein said liquid viscosity reducing agent is a C4 to C8 ketone.
9. The electrolyte of claim 8, wherein said liquid viscosity reducing agent is pentanone.

10. The electrolyte of claim 9, wherein said liquid viscosity reducing agent is 2-pentanone.

11. The electrolyte of claim 10, wherein said viscosity reducing agent comprises impure 2-pentanone.

12. The electrolyte of claim 11, wherein said viscosity reducing agent comprises 1-45% by volume of methyl isobutyl ketone (MIBK) impurity.

13. The electrolyte of claim 12, wherein said viscosity reducing agent comprises about 5-10% by volume of MIBK.

14. The electrolyte of claim 1, wherein said liquid viscosity reducing agent comprises at least 25 vol. % of said electrolyte.

15. The electrolyte of claim 1, wherein said liquid viscosity reducing agent comprises up to about 50 vol. % of said electrolyte.

16. The electrolyte of claim 13, wherein said electrolyte has a viscosity of less than 0.6 cP at room temperature.

17. The electrolyte of claim 16, wherein said electrolyte has a conductivity of greater than 10 mS/cm.

18. The electrolyte of claim 1, wherein said salt is a combination of an anion selected from perfluoro anions and perfluoro, organic sulfonates and a cation selected from tetraethyl ammonium or methyl triethyl ammonium or pyridinium.

19. The electrolyte of claim 18, wherein said salt is tetraethyl ammonium tetrafluoroborate or methyl triethyl ammonium tetrafluoroborate or pyridinium tetrafluoroborate.

5 20. The electrolyte of claim 18, wherein said organic solvent is selected from the group consisting of linear ethers, cyclic ethers, esters, carbonates, formates, lactones, nitriles, dinitriles, amides, sulfones and sulfolanes.

10 21. The electrolyte of claim 19, wherein said organic solvent is selected from the group consisting of PC and GBL.

22. The electrolyte of claim 1, wherein said salt is dissolved in said organic solvent at a concentration of greater than 0.5 mol/l.

15 23. The electrolyte of claim 22, wherein said salt is dissolved in said organic solvent a concentration of greater than 1 mol/l.

24. The electrolyte of claim 1, wherein said electrolyte has a voltage window of at least 3 volts.

20 25. The electrolyte of claim 24, wherein said electrolyte has a voltage window of at least 3.8 volts.

26. The electrolyte of claim 1, wherein said electrolyte comprises an additional salt.

25 27. The electrolyte of claim 26, wherein said additional salt is a tetraalkylammonium or tetraalkylphosphonium.

28. The electrolyte of claim 9, wherein said liquid viscosity reducing agent is methyl isobutyl ketone.

29. An electrical energy storage device comprising the electrolyte of claims 1.

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30. The electrical energy storage device of claim 28, further comprising carbon-based electrodes.

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31. A non-aqueous electrolyte for an electrical storage device comprising a non-aqueous solvent, a salt dissolved in said non-aqueous solvent, and a viscosity-reducing agent comprising impure 2-pentanone in sufficient quantity to substantially reduce the viscosity of the electrolyte below the viscosity of the non-aqueous solvent.

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32. The electrolyte of claim 30, wherein said viscosity-reducing agent comprises about 1 to about 45% by volume of methyl isobutyl ketone (MIBK) impurity.

33. The electrolyte of claim 32, wherein said viscosity-reducing agent comprises about 5 to about 10% MIBK by volume.

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34. The electrolyte of claim 33, wherein said salt is a combination of an anion selected from perfluoro anions and perfluoro, organic sulfonates and a cation selected from ethylated or methylated ammonium or pyridinium.

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35. The electrolyte of claim 34, wherein said salt is tetraethyl ammonium tetrafluoroborate, pyridinium tetrafluoroborate, or methyl triethyl ammonium tetrafluoroborate.

36. The electrolyte of claim 35, wherein said salt is tetraethyl ammonium tetrafluoroborate.

5 37. The electrolyte of claim 36, wherein said organic solvent is selected from the group consisting of linear ethers, cyclic ethers, esters, carbonates, formates, lactones, nitriles, dinitriles, amides, sulfones and sulfolanes.

38. The electrolyte of claim 37, wherein said organic solvent is selected from the group consisting of PC and GBL.